



TW820 Series Industrial LoRa Modems

Introduction

The Bivocom TW820 LoRa modem is a scalable communication device designed for reliable, long-range and light data transmission using advanced technology. Engineered for various industrial and IoT applications, this modem excels in low-power consumption while maintaining high receiving sensitivity and strong anti-interference capabilities.

Equipped with versatile connectivity options including RS232 and RS485, the TW820 supports seamless integration into existing systems. Its robust AES encryption ensures secure over-the-air communication, protecting sensitive data from unauthorized access. The modem operates efficiently in both point-to-point and fixed-point transparent transmission modes, making configuration straightforward and user-friendly.

With a wide operating temperature range of -35 to +75 ° C and a flexible power input of 5-35VDC, the Bivocom TW820 is designed for durability and reliability in harsh environments. Whether you're building a smart city, monitoring remote assets, or deploying sensor networks, the TW820 provides a plug-and-play solution that meets your long-range communication needs.

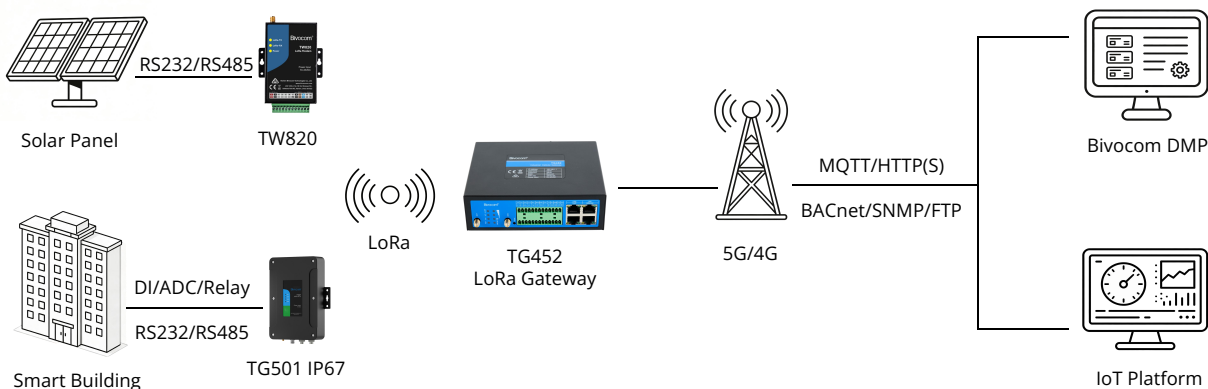
Key Features

- LoRa 850~931MHz, or 410-490MHz (Optional)
- 1-RS232 (Config Port), 1-RS485, half-duplex
- Low power, long-range up 10Km (open air)*
- Anti-interference, high receiving sensitivity
- AES Encryption and Decryption over the air communication
- Point-to-point, fixed-point transparent transmission mode
- Easy to configure, plug and play
- Wide operating temperature: -35~+75 ° C

Applications

- Smart Building
- Solar Panel
- Smart Agriculture
- Smart Cities
- Water & Waste Water
- Oil & Gas
- Power
- Weather Station

Diagram



Specifications

LoRa	
Frequency	850~931MHz, or 410-490MHz (Optional)
Distance*	Building: Up to 3KM Open air: Up to 10KM
Sensitivity	Up to -129dBm
TX Power	21-30dBm
Encryption	AES
Air Data Rate	1.2~62.5kbps (Default: 4.8kbps)
Single-packet Data	Up to 230 Bytes
Channel	82 Channels
Antenna	1 × 50 Ω SMA-K
Serial	

Ports	1-RS232 (Config Port), 1-RS485 (Disabled when RS232 is used)
Baud Rate	300bps to 115200bps (Default 9600bps)
Power	

Input	5-35 VDC
Standard Power	12VDC/1.5A
Idle Mode	5mA@12VDC
Working Mode	85mA@12VDC

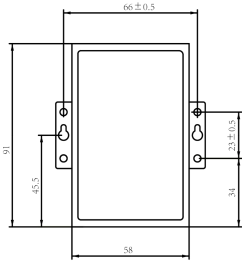
Physical Characteristics	
IP Rating	IP30
Housing & Weight	Metal, 218g (0.48lbs), without accessories
Dimensions	91x58x22mm (3.58 x 2.28 x 0.87in)
Mounting	Wall mount

Environmental	
Operating Temp.	-35° C to +75° C (-31°F to +167°F)
Storage Temp.	-40° C to +80° C (-40°F to +176°F)
Relative Humidity	5% to 95% (non-condensing)
Others	

LED Indicators	LoRa TX, LoRa RX, Power
Approvals	CE*, RCM*, FCC*
Warranty Period	Standard: 2-Year limited warranty Extended: 3-5 Years

- Note:**
- 1. Region-specific LoRa modules are available; consult Bivocom sales for details.
 - 2. The distance is just theoretical value, it may vary due to factors like environmental conditions.
 - 3. Power consumption is measured under laboratory conditions and is for reference only.
 - 4. *Listed certifications are pending.
 - 5. Extended warranty pricing varies.
 - 6. Digital user manuals are free to download from [Bivocom](#) official website for environmental protection.

Dimensions



Ordering Information

Model	Part Number	LoRa	Package Contents
TW820-LR	TW820- LR<1>	850~931MHz, 410-490MHz (Optional)	1. TW820 x 1 2. LoRa Antenna x 1 3. RS232 Cable x 1 (DB9 Female, 1 meter) 4. 8-Pin Terminal Block 5. Power Adapter x 1 (Optional EU/UK/AU/US/CN Type)
Part Number: <1>: LoRa module for different countries and regions			

About Bivocom

Founded in 2014, Bivocom specializes in industrial IoT communication technology. Our comprehensive product portfolio covers IoT sensors, cellular gateways, industrial routers, RTUs, modems, as well as self-developed IoT cloud management platforms. We deliver ruggedized industrial wireless hardware, full-lifecycle OEM/ODM customization services and end-to-end IoT connectivity one-stop solutions to industrial partners worldwide.

HQ: 27-28/F, Building F14, Software Park Phase III, Xiamen, 361022, China

W: [www.bivocom.com](#) P: +86 158 8026 2905
E: [sales@bivocom.com](#) E: [support@bivocom.com](#)

Bivocom 佰沃恩 “Bivocom 佰沃恩” are proprietary registered trademarks of Bivocom. All unapproved exploitation of these marks is forbidden. Any other trade names referenced belong to the trademark holders themselves.